

## UNCLASSIFIED

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2 Exhibit)								DATE <b>February 1999</b>		
BUDGET ACTIVITY <b>5 - Engineering and Manufacturing Development</b>				PE NUMBER AND TITLE <b>0604741A Air Defense Command, Control, Intelligence - Engineering Development</b>						
COST (In Thousands)	FY 1998 Actual	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	20591	11458	7995	8942	14994	15413	16748	17045	Continuing	Continuing
D126 FAAD Command and Control Engineering Development	20591	6363	7502	8203	9186	9607	9674	9982	Continuing	Continuing
D146 Air & Missile Defense Planning & Control System (AMC PCS)	0	0	493	739	5808	5806	7074	7063	Continuing	Continuing
D169 Air & Missile Defense Planning & Control Sys - WRAP	0	5095	0	0	0	0	0	0	Continuing	Continuing

**A. Mission Description and Budget Item Justification:** The Forward Area Air Defense Command, Control and Intelligence (FAAD C2I) System provides critical forward area air defense automated information to support the command and control decision process at various levels of command. The mission is to collect, digitally process and disseminate real time target information, air threat warning, and command and control information to all FAAD weapons [Avenger, Bradley Stinger Fighting Vehicle (BSFV), Manportable Air Defense System (MANPADS), and combined arms]. Unique FAADC2I software will provide the mission capability by integrating FAAD C2 engagement operations software using Common Distribution System (JTIDS), Single Channel Ground and Air Radio System (SINCGARS), Light and Special Division Interim Sensor (LSDIS), Global positioning System (GPS), Airborne Warning and Control System (AWACS), Sentinel (Previously Ground Based Sensors (GBS)), and the Army Battle Command System (ABCS) architecture. Provides horizontal integration and joint interoperability with the ABCS and Short Range Air Defense (SHORAD) Weapons Systems.

WRAP dollars will fund the Air/Missile Defense Planning and Control System (AMDPCS) which provides command and control capability to Air Defense Artillery Brigades, the Army Air and Missile Defense Command (AAMDC), corps and above headquarters, and joint force command and control elements, such as the Battlefield Coordination Detachment. It provides ADA Brigades with a Fire Control System (FCS) via the Air Defense System Integrator (ADSI) for monitoring and controlling subordinate battalions and it provides a common defense/staff planning and situational awareness tool via Air and Missile Defense Workstation (AMDWS) to be fielded to all air and missile defense units at all echelons of command, battery through theater.

Page 1 of 10 Pages
Exhibit R-2 (PE 0604741A)

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BUDGET ACTIVITY

**5 - Engineering and Manufacturing Development**

PE NUMBER AND TITLE

**0604741A Air Defense Command, Control,  
Intelligence - Engineering Development**

<b>B. Program Change Summary</b>	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>
Previous President's Budget ( <u>FY 1999</u> PB)	21181	6476	7571	8500
Appropriated Value	22350	11606		
Adjustments to Appropriated Value				
a. Congressional General Reductions	-1169	-148		
b. SBIR / STTR	-444			
c. Omnibus or Other Above Threshold Reductions	-146			
d. Below Threshold Reprogramming				
e. Rescissions				
Adjustments to Budget Years Since <u>FY 1999</u> PB			+424	+442
Current Budget Submit ( <u>FY 2000</u> PB)	20591	11458	7995	8942

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BUDGET ACTIVITY <b>5 - Engineering and Manufacturing Development</b>				PE NUMBER AND TITLE <b>0604741A Air Defense Command, Control, Intelligence - Engineering Development</b>				PROJECT <b>D126</b>		
COST (In Thousands)	FY 1998 Actual	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	Cost to Complete	Total Cost
D126 FAAD Command and Control Engineering Development	20591	6363	7502	8203	9186	9607	9674	9982	Continuing	Continuing
<p><b>A. Mission Description and Budget Item Justification: Project D126 – FAAD Command and Control Engineering Development:</b> The Forward Air Defense Command and Control (FAAD C2) System is an automated system deployed with SHORAD weapons to provide accurate and timely command, control and targeting information for the SHORAD weapon systems. The system utilizes non-development item sensors, computers, displays and interface hardware integrated with data communication equipment. It automates mission related functions and uses the Single Channel Ground and Airborne Radio Systems (SINCGARS) for voice and both SINCGARS and the Enhanced Position Location Reporting System (EPLRS) for data.</p> <p><b>FY 1998 Accomplishments:</b></p> <ul style="list-style-type: none"> <li>• 2499 Digitization integration</li> <li>• 14301 Continued Block III development</li> <li>• 3791 Sentinel GBS</li> </ul> <p>Total 20591</p> <p><b>FY 1999 Planned Program:</b></p> <ul style="list-style-type: none"> <li>• 100 Operational Assessment</li> <li>• 3019 Continue Block III SW development</li> <li>• 3000 Continue digitization integration</li> <li>• 100 Complete Critical Design Review VI/System Certification Test</li> <li>• 144 Small Business Innovation Research/Small Business Technology Transfer (SBIR/STTR) Programs</li> </ul> <p>Total 6363</p> <p><b>FY 2000 Planned Program:</b></p> <ul style="list-style-type: none"> <li>• 4202 Continue Block III SW development</li> <li>• 3200 Continue digitization integration</li> <li>• 100 System Certification Test</li> </ul> <p>Total 7502</p>										
Project D126			Page 3 of 10 Pages			Exhibit R-2A (PE 0604741A)				

## UNCLASSIFIED

<b>ARMY RDT&amp;E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)</b>								DATE <b>February 1999</b>		
BUDGET ACTIVITY <b>5 - Engineering and Manufacturing Development</b>				PE NUMBER AND TITLE <b>0604741A Air Defense Command, Control, Intelligence - Engineering Development</b>				PROJECT <b>D126</b>		
<b>FY 2001 Planned Program:</b> <ul style="list-style-type: none"> <li>• 7103 Continue Block III SW development</li> <li>• 1000 Continue digitization integration</li> <li>• 100 Complete Critical Design Review VII</li> </ul> Total 8203										
<b>B. Other Program Funding Summary</b>	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	To <u>Compl</u>	Total <u>Cost</u>
RDTE, 64820.DE10 – Sentinel GBS	0	6742	5128	8481	10067	0	0	0	Cont	Cont
OPA 2, WK5053 – Sentinel GBS	58858	57877	38379	24362	23769	26220	35079	37869	Cont	Cont
OPA 2, WK5057 – Sentinel MODS	0	0	0	7112	9484	20052	24674	26260	Cont	Cont
OPA 2, AD5050 – FAAD C2	12592	13556	10594	12537	12448	12398	25336	41401	Cont	Cont
OPA 2, AD5070 – Air and Missile Defense	0	0	2939	4894	6354	6449	6334	6377	Cont	Cont
Spares (BS9702) – FAAD C2	1205	837	389	390	268	389	1949	1962	Cont	Cont
Spares (BS9732) – SENTINAL GBS	5258	7161	4358	2070	3223	684	3897	2844	Cont	Cont
<b>C. Acquisition Strategy:</b> The acquisition strategy relies heavily on non-development items (NDI) and evolutionary software development to rapidly overcome our current air defense command, control and intelligence deficiencies and to keep pace with the technologies. The concept of evolutionary software development is being followed and will be accomplished in Block – I, II, III and IV. Blocks I and II have been completed. Block III is currently being developed.										
<b>D. Schedule Profile</b>	<u>FY 1996</u>	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>
Critical Design Review				2Q		2Q		2Q		
System Certification Test				2Q	4Q					
First Unit Equipped – Objective System								3Q		
First Unit Equipped, Version 6.0										4Q
<div style="display: flex; justify-content: space-between;"> <span>Project D126</span> <span>Page 4 of 10 Pages</span> <span>Exhibit R-2A (PE 0604741A)</span> </div>										

## UNCLASSIFIED

## ARMY RDT&amp;E COST ANALYSIS (R-3)

DATE

February 1999

BUDGET ACTIVITY

**5 - Engineering and Manufacturing Development**

PE NUMBER AND TITLE

**0604741A Air Defense Command, Control,  
Intelligence - Engineering Development**

PROJECT

**D126**

I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 1999 Cost	FY 1999 Award Date	FY 2000 Cost	FY 2000 Award Date	FY 2001 Cost	FY 2001 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. TRW	C/CPIF	Dominquez Hills, CA	176461	0						0	176461	
b. TRW	SS/CPIF	Dominquez Hills, CA	32206	0						0	32206	
c. TRW	SS/CPIF	Dominquez Hills, CA	47848	4636		5532		6158		Cont	64174	
d. TRW	SS/T&M	Dominquez Hills, CA	6093	0						Cont	6093	
e. Matrix (RDEC)	MIPR	Huntsville, AL	5427	532		620		685		Cont	7264	
f. Sentinel GBS	MIPR	Huntsville,AL	3791							0	3791	
g. CHS	MIPR	Ft. Monmouth, NJ	1000	200		200		200		0	1600	
h. JTIDS	MIPR	Ft. Monmouth, NJ	6000							Cont	6000	
i. In-house/Govt Spt	Various	Various	11367	895		1050		1160		Cont	14472	
Subtotal Product Development:			290193	6263		7402		8203			312061	

II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 1999 Cost	FY 1999 Award Date	FY 2000 Cost	FY 2000 Award Date	FY 2001 Cost	FY 2001 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. SETA, CAS	SS/CPFF	Huntsville, AL	10879	0							10879	
b. SBIR/STTR			444								444	
Subtotal Support Costs:			11323								11323	

III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 1999 Cost	FY 1999 Award Date	FY 2000 Cost	FY 2000 Award Date	FY 2001 Cost	FY 2001 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. ADATD, Ft. Bliss			9916	100		100				Cont	10116	
b. OPTEC			2000	0		0				0	2000	
Subtotal Test and Evaluation:			11916	100		100					12116	

IV. Management Services: None

Project Total Cost:			313432	6363		7502		8203			335500	
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Project D126

Page 5 of 10 Pages

Exhibit R-3 (PE 0604741A)

## UNCLASSIFIED

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)								DATE <b>February 1999</b>		
BUDGET ACTIVITY <b>5 - Engineering and Manufacturing Development</b>				PE NUMBER AND TITLE <b>0604741A Air Defense Command, Control, Intelligence - Engineering Development</b>				PROJECT <b>D146</b>		
COST (In Thousands)	FY 1998 Actual	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	Cost to Complete	Total Cost
D146 Air & Missile Defense Planning & Control System (AMC PCS)	0	0	493	739	5808	5806	7074	7063	Continuing	Continuing
<p><b>A. Mission Description and Budget Item Justification:</b> Project D146 – Air and Missile Defense Planning and Control System: The Air/Missile Defense Planning and Control System (AMDPACS) provides command and control capability to Air Defense Artillery Brigades, the Army Air and Missile Defense Command (AAMDC), corps and above headquarters, and joint force command and control elements, such as the Battlefield Coordination Detachment. It provides ADA Brigades with a Fire Control System (FCS) via the Air Defense System Integrator (ADSI) for monitoring and controlling subordinate battalions and it provides a common defense/staff planning and situational awareness tool via Air and Missile Defense Workstation (AMDWS) to be fielded to all air and missile defense units at all echelons of command, battery through theater.</p> <p><b>FY 1998 Accomplishments:</b> Project not funded in FY 1998</p> <p><b>FY 1999 Planned Program:</b> Project not funded in FY 1999</p> <p><b>FY 2000 Planned Program:</b></p> <ul style="list-style-type: none"> <li>• 493 Continue Software Development Contract</li> </ul> <p>Total 493</p> <p><b>FY 2001 Planned Program:</b></p> <ul style="list-style-type: none"> <li>• 739 Continue Software Development Contract</li> </ul> <p>Total 739</p>										
<b>B. Other Program Funding Summary</b>	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	To <u>Compl</u>	Total <u>Cost</u>
OPA 2, AD5070 – Air and Missile Defense	0	0	2939	4894	6354	6449	6334	6377	Cont	Cont
<p><b>C. Acquisition Strategy:</b> The acquisition strategy relies on non-development items (NDI) and evolutionary software development to rapidly overcome our current air defense command, control and intelligence deficiencies and to keep pace with the technologies. The concept of evolutionary software development will be accomplished in continuing development.</p>										
Project D146			Page 6 of 10 Pages			Exhibit R-2A (PE 0604741A)				

## UNCLASSIFIED

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BUDGET ACTIVITY <b>5 - Engineering and Manufacturing Development</b>					PE NUMBER AND TITLE <b>0604741A Air Defense Command, Control, Intelligence - Engineering Development</b>				PROJECT <b>D146</b>	

  

<b>D. Schedule Profile</b>	<u>FY 1996</u>	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>
Y2K Certification Testing				3Q						
AMDWS Version 1.1 Release				4Q						
AMDWS Version 2.0 Release					3Q					
ABCS 5.0				4Q						
AMDWS Version 2.1 Release						2Q				
ABCS 6.0					4Q					
AMDWS Interoperability Tests					2Q	1Q				
AMDWS Operational Assessment					2Q	1Q				
ADSI SW Certification					3Q					
ADSI Materiel Release						1Q				

  

Project D146
Page 7 of 10 Pages
Exhibit R-2A (PE 0604741A)

## UNCLASSIFIED

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)								DATE <b>February 1999</b>		
BUDGET ACTIVITY <b>5 - Engineering and Manufacturing Development</b>				PE NUMBER AND TITLE <b>0604741A Air Defense Command, Control, Intelligence - Engineering Development</b>				PROJECT <b>D169</b>		
COST (In Thousands)	FY 1998 Actual	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	Cost to Complete	Total Cost
D169 Air & Missile Defense Planning & Control Sys - WRAP	0	5095	0	0	0	0	0	0	Continuing	Continuing
<p><b>A. Mission Description and Budget Item Justification:</b> Project D169 – Air and Missile Defense Planning and Control System: WRAP dollars will fund the Air/Missile Defense Planning and Control System (AMDPCS) which provides command and control capability to Air Defense Artillery Brigades, the Army Air and Missile Defense Command (AAMDC), corps and above headquarters, and joint force command and control elements, such as the Battlefield Coordination Detachment. It provides ADA Brigades with a Fire Control System (FCS) via the Air Defense System Integrator (ADSI) for monitoring and controlling subordinate battalions. It also provides a common defense/staff planning and situational awareness tool via Air and Missile Defense Workstation (AMDWS) to be fielded to all air and missile defense units at all echelons of command, battery through theater.</p> <p><b>FY 1998 Accomplishments:</b> Project not funded in FY 1998</p> <p><b>FY 1999 Planned Program:</b></p> <ul style="list-style-type: none"> <li>• 3565 AMDWS Software Development</li> <li>• 1000 ADSI Software Development</li> <li>• 395 AMDWS and ADSI Software Certification</li> <li>• 135 Small Business Innovation Research/Small Business Technology Transfer (SBIR/STTR) Programs</li> </ul> <p>Total 5095</p> <p><b>FY 2000 Planned Program:</b> Project not funded in FY 2000</p> <p><b>FY 2001 Planned Program:</b> Project not funded in FY 2001</p>										
<b>B. Other Program Funding Summary</b>	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	To <u>Compl</u>	Total <u>Cost</u>
OPA 2, AD5070 – Air and Missile Defense	0	0	2939	4894	6354	6449	6334	6377	Cont	Cont
<p><b>C. Acquisition Strategy:</b> The acquisition strategy relies on non-development items (NDI) and evolutionary software development to rapidly overcome our current air defense command, control and intelligence deficiencies and to keep pace with the technologies. The concept of evolutionary software development will be accomplished in continuing development.</p>										
Project D169		Page 8 of 10 Pages				Exhibit R-2A (PE 0604741A)				



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<b>D. Schedule Profile</b>	<u>FY 1996</u>	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>
Y2K Certification Testing				3Q						
AMDWS Version 1.1 Release				4Q						
AMDWS Operational Tests – Patriot System										
AMDWS Version 2.0 Release										
ABCS 5.0				4Q						
AMDWS Version 2.1 Release										
ABCS 6.0										
AMDWS Interoperability Tests				3Q						
AMDWS Operational Assessment				3Q						
ADSI SW Certification				3Q						
ADSI Materiel Release				4Q						

  

Project D169
Page 9 of 10 Pages
Exhibit R-2A (PE 0604741A)

## UNCLASSIFIED

ARMY RDT&E COST ANALYSIS (R-3)										DATE <b>February 1999</b>		
BUDGET ACTIVITY <b>5 - Engineering and Manufacturing Development</b>					PE NUMBER AND TITLE <b>0604741A Air Defense Command, Control, Intelligence - Engineering Development</b>					PROJECT <b>D169</b>		
I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	<u>FY 1999</u> Cost	<u>FY 1999</u> Award Date	<u>FY 2000</u> Cost	<u>FY 2000</u> Award Date	<u>FY 2001</u> Cost	<u>FY 2001</u> Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. TRW	C/CPFF	Huntsville, AL		3700							3700	
b. APC	T&M	Austin, TX		1000							1000	
Subtotal Product Development:				4700							4700	
II. Support Costs: None												
III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	<u>FY 1999</u> Cost	<u>FY 1999</u> Award Date	<u>FY 2000</u> Cost	<u>FY 2000</u> Award Date	<u>FY 2001</u> Cost	<u>FY 2001</u> Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. JITC				150							150	
b. CTSF				95							95	
c. SED				150							150	
Subtotal Test and Evaluation:				395							395	
IV. Management Services: None												
Project Total Cost:				5095							5095	
Project D169												